

# Restoring Habitat for Endangered Riparian Birds

Barbara E. Kus

Western Ecological Research Center  
San Diego Field Station

# Endangered Riparian Birds



*Least Bell's Vireo*

*Southwestern Willow Flycatcher*



# Overview

- Habitat “creation”

- > example targeting Least Bell’s Vireo

- Habitat restoration

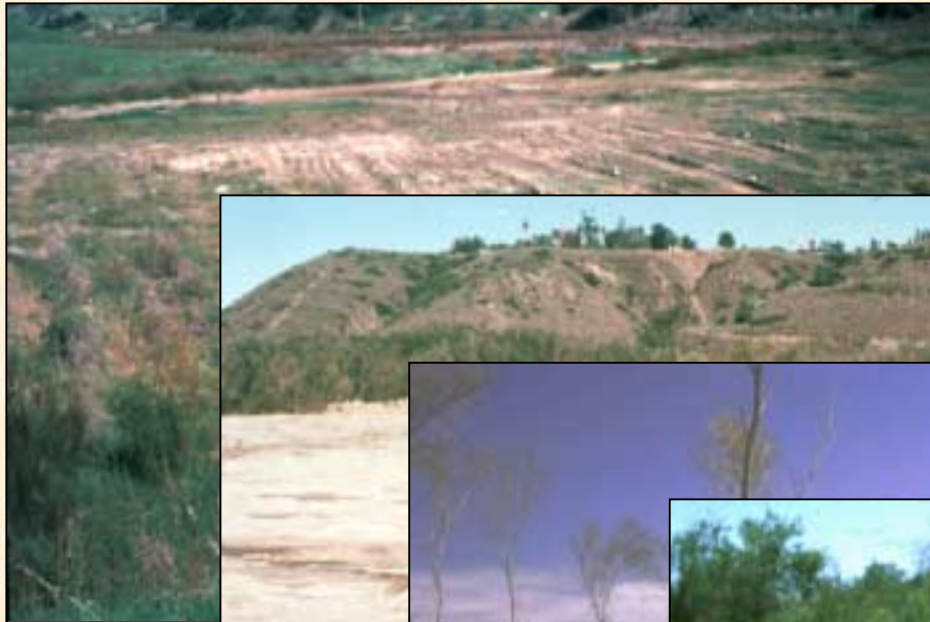
- > removal of exotic vegetation

- > use of exotics by Southwestern Willow Flycatcher

# *Least Bell's Vireo Habitat, San Diego River, CA*



# Habitat Restoration

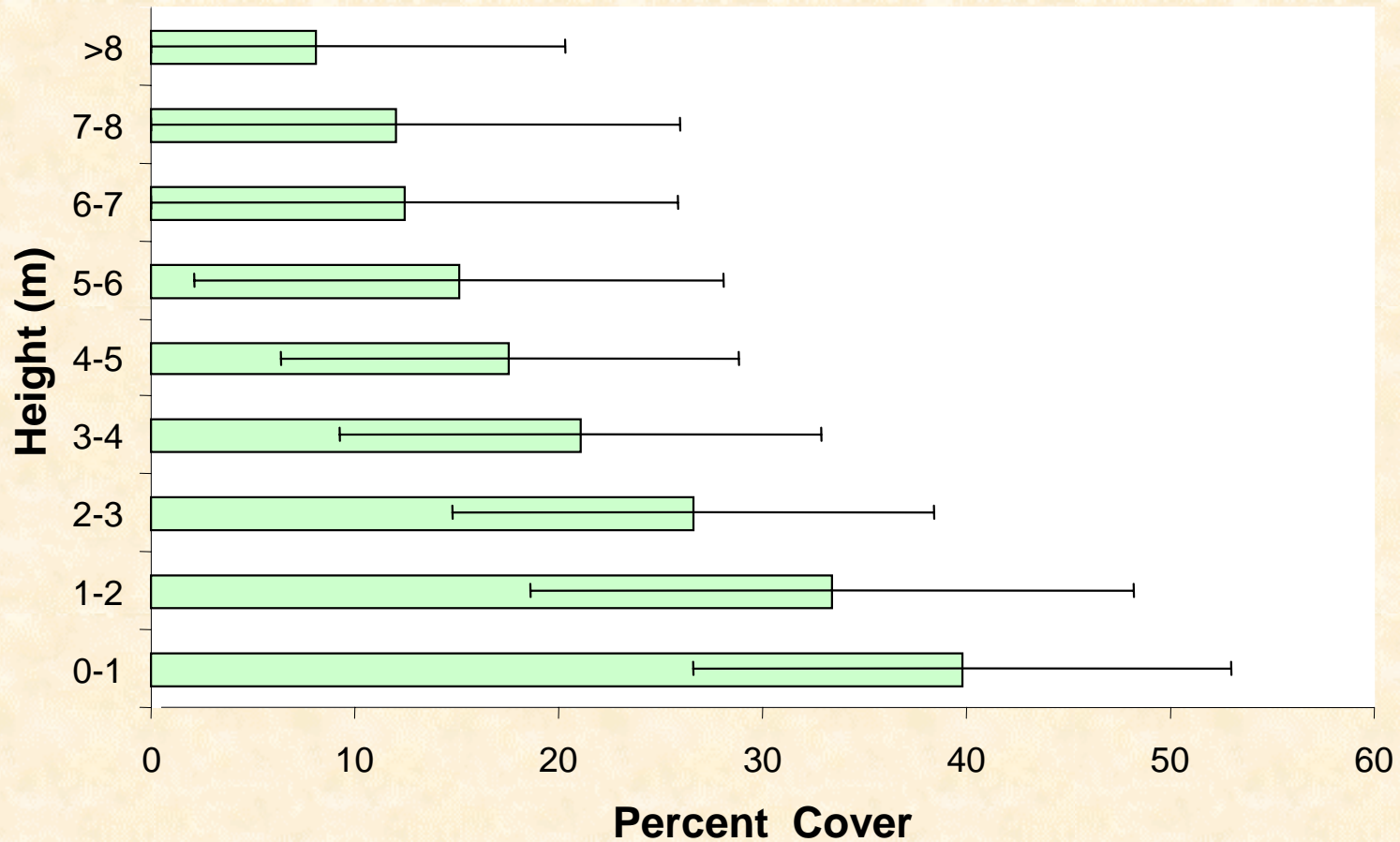


# Habitat Restoration

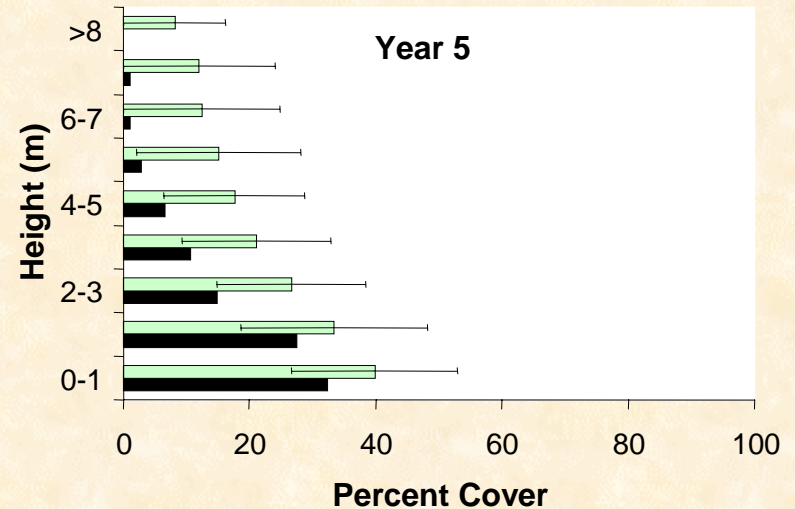
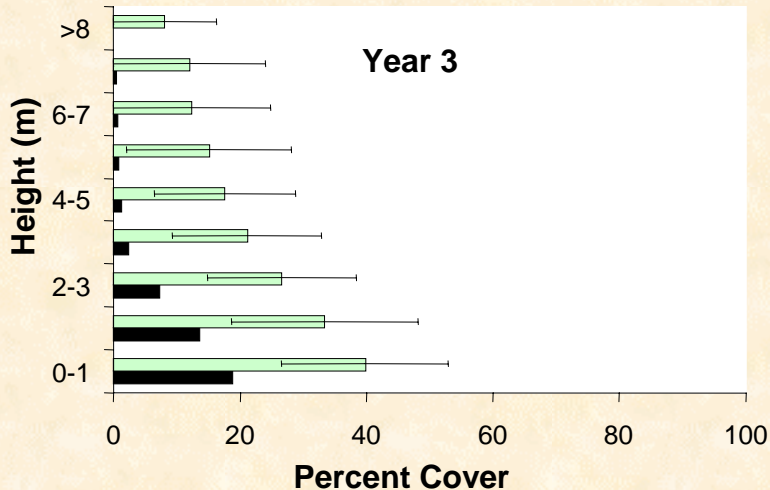
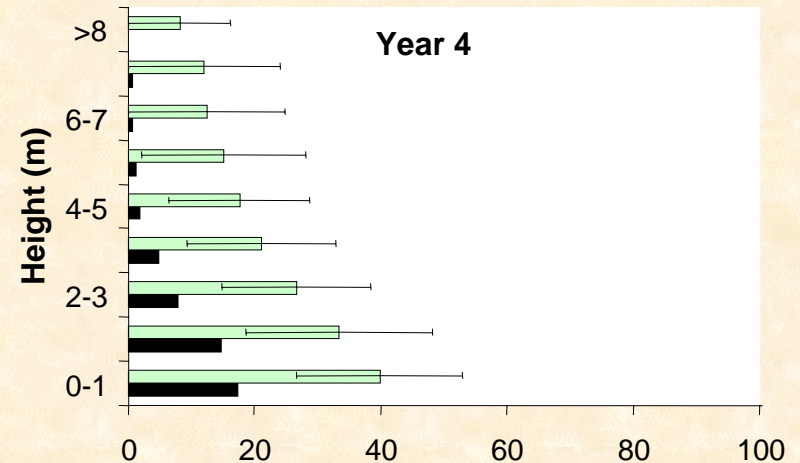
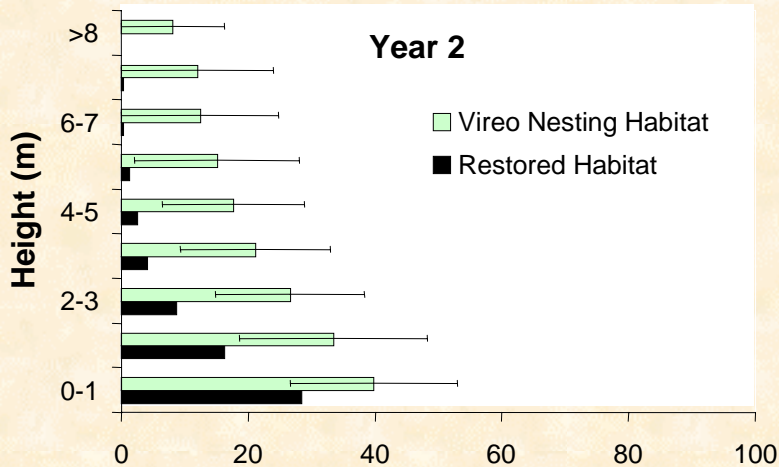




# Habitat Suitability Model

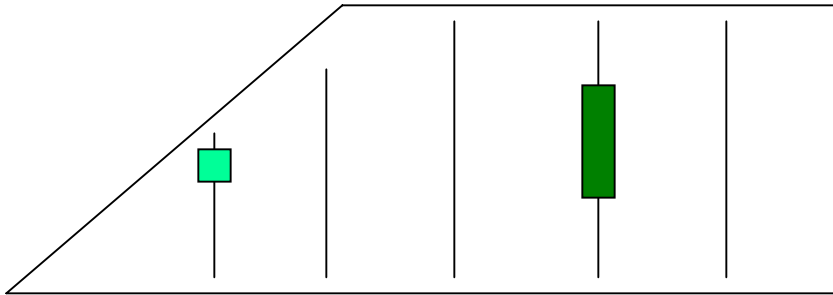


# Oceanside Restoration Site

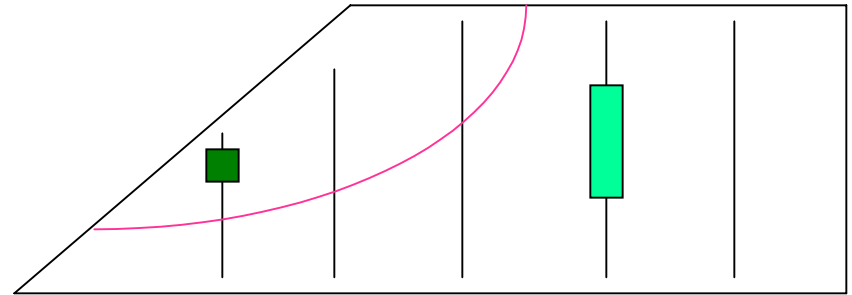


# Development of Restoration Site

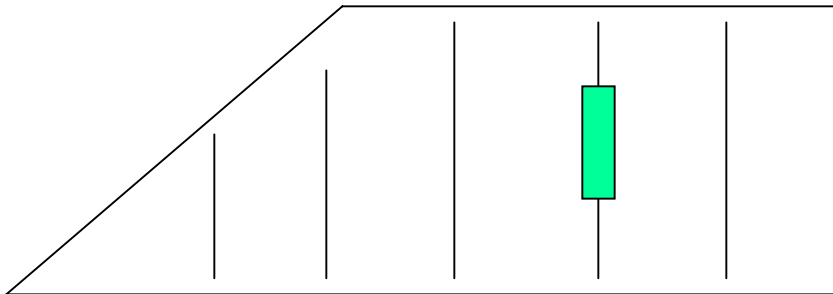
Year 2



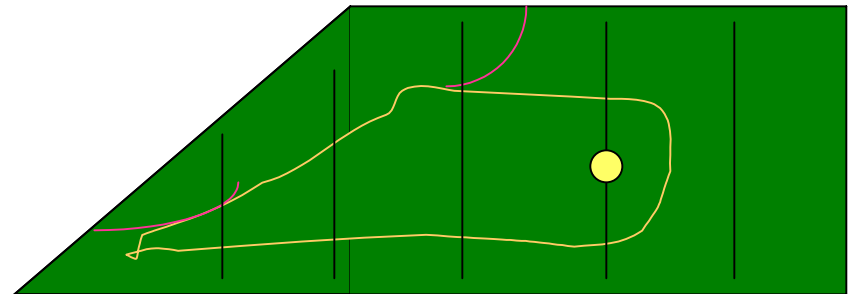
Year 4



Year 3



Year 5



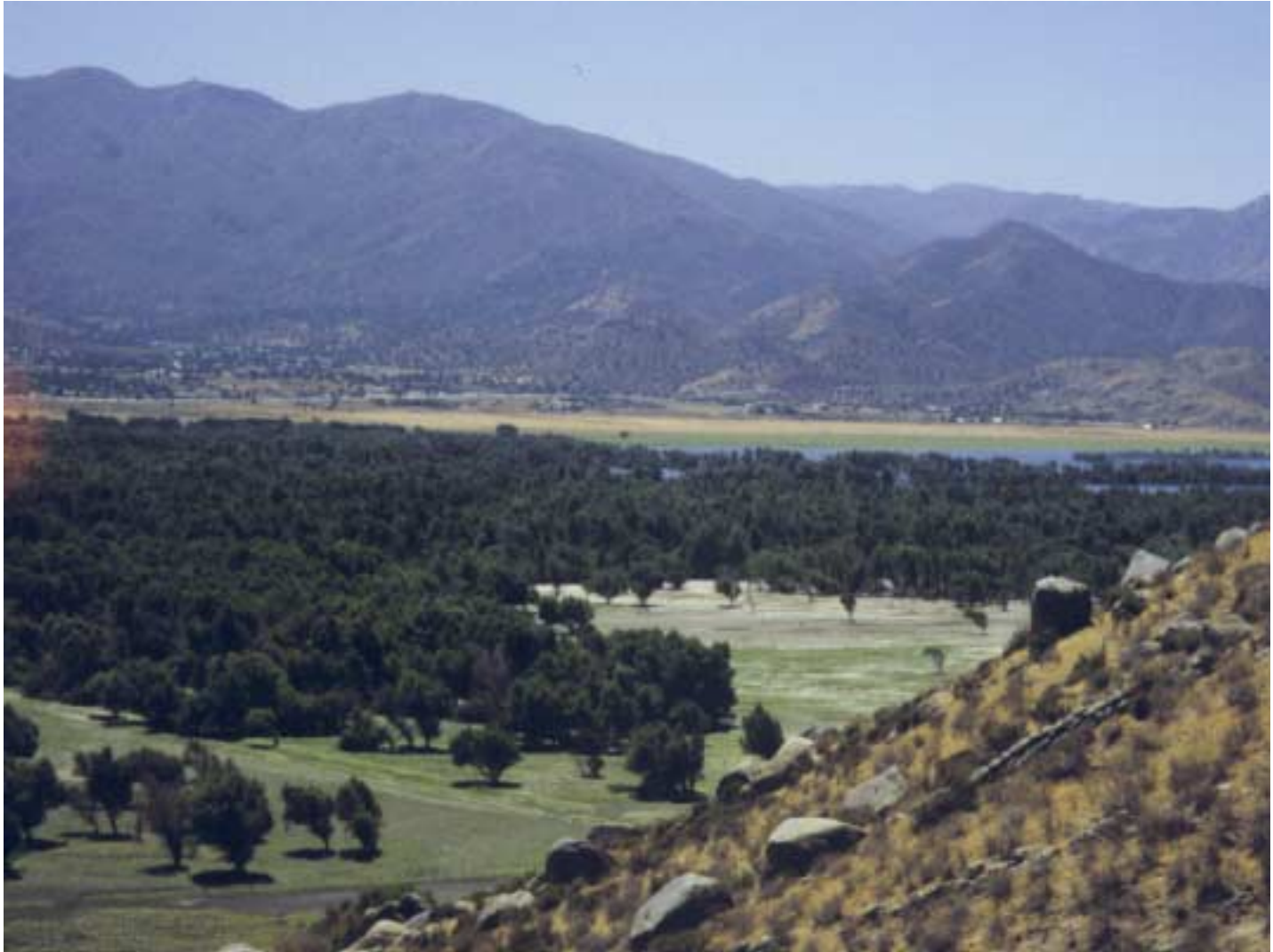
# Conclusions

1. Restoration can produce sites with habitat features required by least Bell's vireos.
2. Least Bell's vireos use restored habitat for foraging and nesting.
3. Reproductive success in restored and reference habitats is comparable.

# Restoring Habitat for SWFL

- No habitat suitability model
- Habitat requirements less well understood
  - > proximity to water
- Use of exotics for nest placement

# *SWFL Habitat: Kern River Preserve, CA*



# *SWFL Habitat: Santa Ynez River, CA*



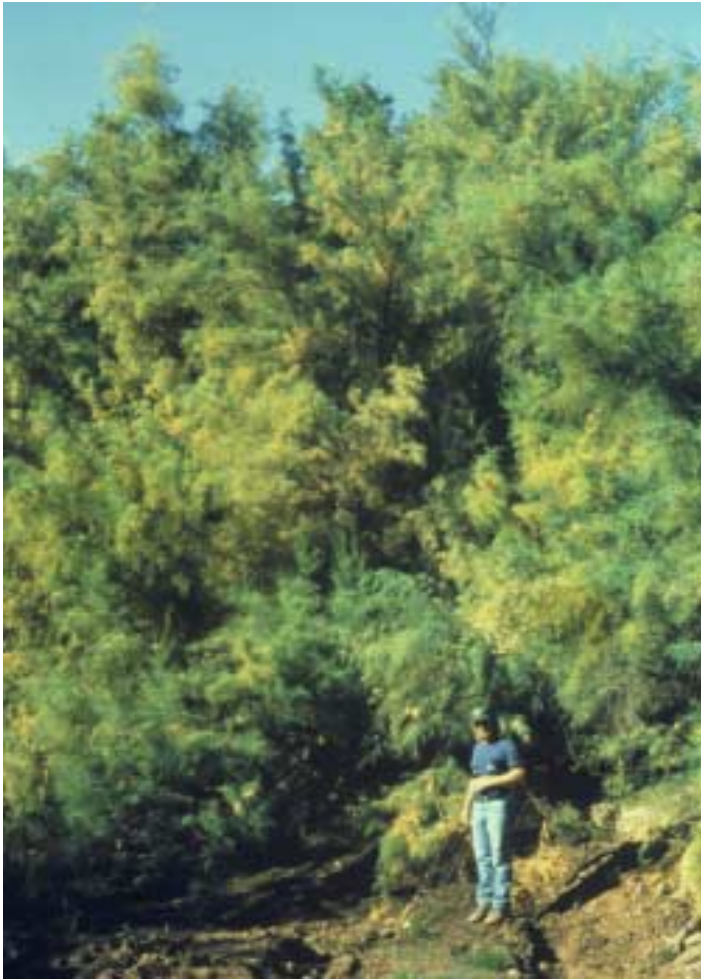
# *SWFL Habitat: Gila River, Pima AZ*



# *SWFL Habitat: Tuzigoot, AZ*



# *SWFL Habitat: Salt River, AZ*



# *Unsuitable habitat, Gila River, AZ*



# *SWFL Habitat, Santa Margarita River, CA*





# Southwestern Willow Flycatcher Nests

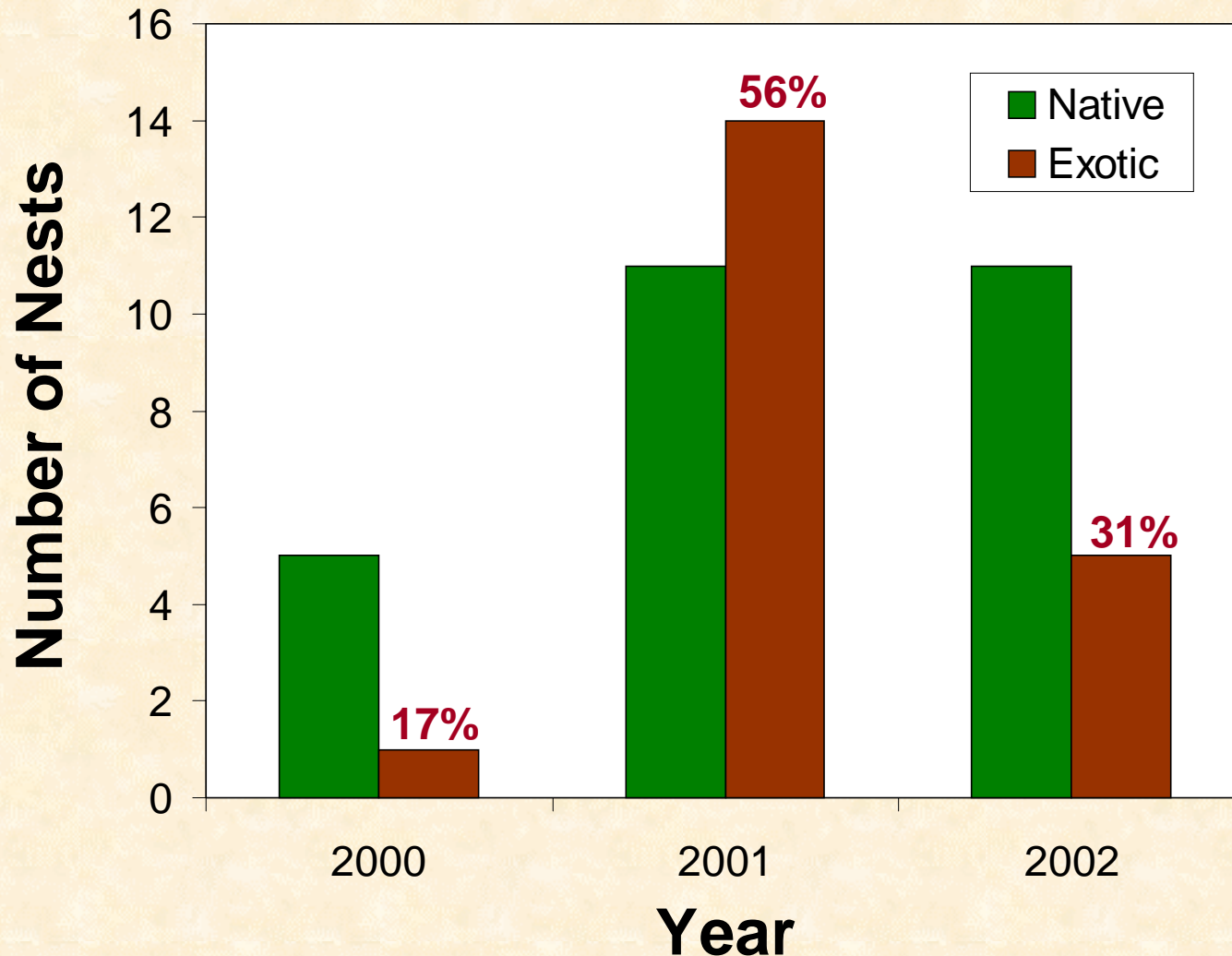


# Southwestern Willow Flycatcher Nests

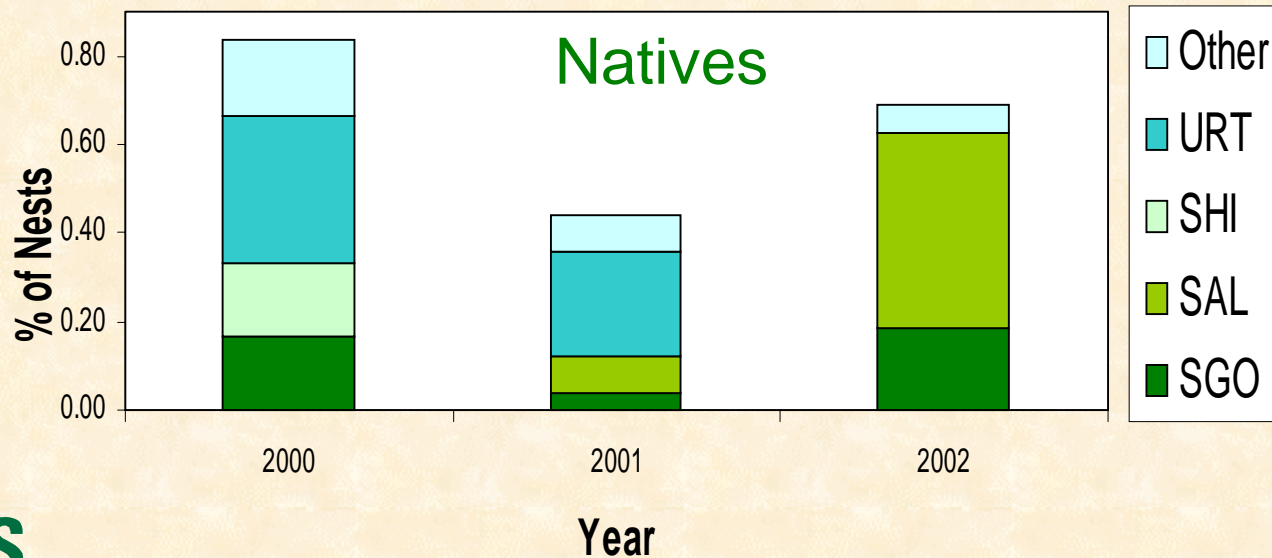
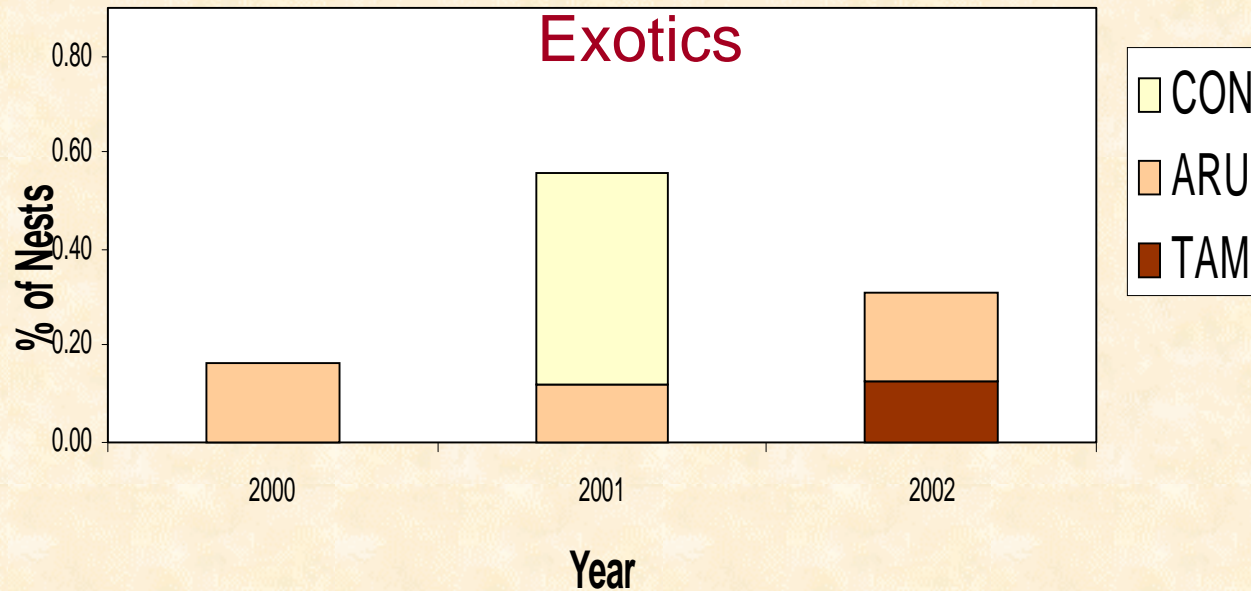


# Use of Natives and Exotics

## Camp Pendleton (N=47)



# Nest Host Species



# Nest Success by Host

Host Species	Year					
	2000		2001		2002	
	# Nests	% Successful	# Nests	% Successful	# Nests	% Successful
ARU	1	100	3	33	3	100
TAM					4	25
CON			11	27		
URT	2	100	6	50		
SGO	1	100	1	100	3	33
SAL			3	67	7	57
SHI	1	100				
BGT			1			
OTH	1	100	1	100	1	0

# Conclusions

1. On average, 35% of SWFL nests placed in exotics
2. Site-specific use of exotics by SWFL should be evaluated and incorporated into restoration plans
3. Plans should provide alternative habitat:
  - > *short-term* (during exotics removal)
  - > *long-term* (re-establishment of native vegetation)

# Acknowledgements

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